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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,437	02/04/2004	Yasuo Suda	02975.000139	3357

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

PETERSON, CHRISTOPHER K

ART UNIT	PAPER NUMBER
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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/770,437	Applicant(s) SUDA, YASUO	
	Examiner Christopher K. Peterson	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-12 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-12 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____ |
|---|--|

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/26/2007 has been entered.

Response to Arguments

2. Applicant's arguments filed 11/26/2007 have been fully considered but they are not persuasive.

First, as to claim 1, the applicant has amended the claims to include the limitation of "...movable independently of each other". The applicant argues that the applicant does not teach this limitation within the specification. Applicant states "the sub-mirror 122 is rotatable around a rotation shaft 125 (in FIG. 1) which will be described later and is **interlocked with the motion** of the half mirror 111" (Spec., pg. 11, Para 50).

Examiner believes interlocked with the motion means that the two mirrors are not movable independently of each other. Also applicant states "A mirror driving mechanism having an **electromagnetic motor** and gear train (not shown) changes the positions of the half mirror 111 and sub-mirror 122 and thereby changes the optical path

state between the **first optical path state, second optical path state and third optical path state** (Spec., pg. 14, Para 63). Examiner believes the two mirrors must move together into three optical paths, because only one motor is mentioned for moving the mirrors.

In regards to claim 16, the applicant argues that the Endo (US Patent Pub. # 2003/0044174) reference does not teach nor suggest CPU 50 and 51 controls the light quantity adjusting unit (Page 11 - 13). The Examiner respectfully disagrees. Endo teaches a stop with the main mirror and sub-mirror (Para54 and 84). These items would control the quantity of light flux directed to the image taking apparatus. Para 104 discusses the main operations of the camera in accordance with the second embodiment are the same as those in the flow chart of Fig. 3. The flow chart of Fig. 3 shows the movement of the main mirror (7) in step #318 (Para 85). Microcomputer (21) controls the movement of the mirror and the stop. It also performs other functions within the camera (Para47). Endo teaches a second embodiment which shows a camera with a replaceable lens. The Examiner believes that the CPU (50 and 51) of the second embodiment performs the same functions as the microcomputer (21) of the first embodiment (Para 104).

Also Endo teaches that the microcomputer (21) measures the luminance of the object by the photometry sensor (37) and calculates a stop control value and a shutter time control value in accordance with a predetermined program. Thus the microcomputer (21) controls the light quantity into the CCD (Para 84). Thus the microcomputer (21) of Endo does control the light via the stop.

In regard to claims 9 - 11, the Applicant has amended these claims as well as amended claims 1 and 11. Claim 8 was cancelled therefore claims 9 - 11 were amended to change their dependency. Therefore note the discussion above concerning the amended limitations of claims 1 and 11.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 - 7 and 9 - 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 is rejected because it reads, "wherein the light splitting unit has a first mirror comprising a half mirror and second mirror which are **movable independently of each other**". Applicant states "the sub-mirror 122 is rotatable around a rotation shaft 125 (in FIG. 1) which will be described later and is **interlocked with the motion** of the half mirror 111" (Spec., pg. 11, Para 50). Examiner believes interlocked with the motion means that the two mirrors are not movable independently of each other. Also applicant states "A mirror driving mechanism having an **electromagnetic motor** and gear train (not shown) changes the positions of the half mirror 111 and sub-mirror 122 and thereby

changes the optical path state between the **first optical path state, second optical path state and third optical path state** (Spec., pg. 14, Para 63). Examiner believes the two mirrors must move together into three optical paths, because only one motor is mentioned for moving the mirrors. For the purpose of examination the phrase "**movable independently of each other**" will not be consider as a limitation of the claim.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Endo (US Patent Pub. # 2003/0044174).

As to claim 16, Endo (Fig. 5) teaches a lens apparatus (3) mounted on an image taking apparatus (1) operating in a first mode in which a light flux from an object is directed to a view finder optical system (8 -10) and a focus detection unit (SNS1 31) (Para 84) and a second mode in which the light flux is directed to a image pickup element (41) and the focus detection unit (SNS1 31) (Para 85) comprising:

- a communication unit (an interconnection unit between camera CPU 50 and lens CPU 51) which communicates with the image taking apparatus (1) (Para 0102-0103);
- a light quantity adjusting unit (7, 11, 50, and stop) which controls the quantity of the light flux directed to the image taking apparatus (1) (Para

54 and 84). Endo teaches that the main operations of the camera of Fig. 5 are the same as the flow chart of Fig. 3; therefore the CPU (21) of Fig. 1 would perform the same functions of CPU (50 and 51 of Fig. 5).

- a control circuit (CPU 50 and 51) which controls the driving of the light quantity adjusting unit (7, 11, 50, and stop) according to the communication of the communication unit (Para 84 and 85);
- wherein the control circuit (CPU 50 and 51) controls the driving of the light quantity adjusting unit (7, 11, 50, and stop) in the first and second modes, and changes the practice of the control of the light quantity adjusting unit (7, 11, 50, and stop) according to the first mode and the second mode (Para 84 and 85).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1 - 3, and 6, 7, 9 - 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (US Patent Pub. # 2003/0044174) in view of Sakamoto (US Patent # 6183142).

As to claim 1, Endo (Fig. 1) teaches an image taking apparatus comprising:

- a light splitting unit (7, 11, and stop) which splits a light flux from an image-taking lens into a plurality of light fluxes (Para 0046);

- a view finder optical system (8-10) configured and positioned to observe an object image formed by the light flux from the image-taking lens (Para 0046);
- an image pickup element (41) which photoelectrically converts the object image to an electrical signal (Para 0055); and
- a focus detection unit (SNS1 31) configured and positioned to detect the focusing state of the image-taking lens according to a phase difference detection system (Para 0052).
- the light splitting unit changes its state among a first state in which the light flux is directed to the view finder optical system (8-10) and the focus detection unit (SNS1 31) (Para 84), a second state in which the light flux is directed to the image pickup element (41) and the focus detection unit (SNS1 31) (Para 85).
- wherein the light splitting unit has a first mirror (7 and 11) comprising a half mirror (11) and second mirror (7) (Para 46),
- wherein in the first state, part of the light flux is reflected by the first mirror (7 and 11) and directed to the view finder optical system (8 – 10), and the rest of the light flux passes through the first mirror (7 and 11), is reflected by the second mirror (7) and directed to the focus detection unit (SNS1 31) (Para 84), and
- wherein in the second state, part of the light flux is reflected by the first mirror (7 and 11) and directed to the focus detection unit (SNS1 31), and

the rest of the light flux passes through the first mirror (7 and 11) and is directed to the image pickup element (41) (Para 85).

Endo does not teach a third state in which the light flux is directed only to the image pickup element. Sakamoto (Fig. 8) teaches the light splitting unit (50 and 60) changes its state among a first state in which the light flux is directed to the view finder optical system (2 and 3) and the focus detection unit (4), a second state in which the light flux is directed to the image pickup element (6) and the focus detection unit (4), and a third state in which the light flux is directed only to the image pickup element (6)(Col. 4, lines 27 – 62). The mirrors rotate independently of each other, in the first state main mirror (50) and sub-mirror (60) are in position “A” and in the second state main mirror (50) is in position “B” and sub-mirror (60) is in position “A”.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided first and second mirrors that operate independently of each other as taught by Sakamoto to the apparatus of Endo, because it eliminates adjustment cost reduction, adjustment component elimination, adjustment component space reduction, and simplifies the rotational movement (Col. 7, line 11 – 30 of Sakamoto).

As to claim 2, Endo teaches the image taking apparatus (1) according to claim 1, further comprising: an image display unit (46) which displays image data acquired using the image pickup element (41); and a control circuit (44) which controls the driving of the image display unit (Para 0057), wherein the control circuit (44) causes the image

display unit (46) to display the image data when the light splitting unit (7 and 11) is in the second state (Para 0113).

As to claim 3, Endo teaches the image taking apparatus (1) according to claim 2, wherein the control circuit (44) causes the image display unit (46) to display only a part of the image data when the light splitting unit is in the second state (Para 0058 and 0085).

As to claim 6, Endo teaches the image taking apparatus (1) according to claim 1, further comprising: a control circuit (44) which determines the focusing state of the image-taking lens based on the output of the focus detection unit (SNS1 31), wherein the control circuit (44) changes the determination of the focusing state according to the first state and the second state (Para 0122 - 0123).

As to claim 7, Endo teaches the image taking apparatus (1) according to claim 6, wherein the control circuit (44) determines the focusing state by correcting the output of the focus detection unit (SNS1 31) based on an initial phase difference and changes the value of the initial phase difference according to the first state and the second state (Para 0108).

As to claim 9, Endo teaches wherein the position of the reflecting surface of the second mirror (7) in the first state is substantially the same as the position of the reflecting surface of the first mirror (7 and 11) in the second state (Para 84 and 85).

As to claim 10, Sakamoto teaches the image taking apparatus according to claim 8, wherein when changing from one state to the other between the first state and the second state, the light splitting unit (50 and 60) is placed in the third state in which the

first mirror (50) and the second mirror (60) are withdrawn from an image-taking optical path (Col. 4, line 38 – 50). In the third state main mirror (50) and sub-mirror (60) are in position "B".

As to claim 11, Sakamoto (Fig. 8) teaches the image taking apparatus according to claim 8, further comprising: a stopper member (52a) which contacts the first mirror for positioning the first mirror in the first state, wherein the stopper member (52a) can move with respect to a moving track of the first mirror (Col. 5, lines 40 - 49).

As to claim 12, Endo teaches the image taking apparatus (1) according to claim 1, wherein the image-taking lens (3) is attachable and detachable to the image taking apparatus (Para 0100 - 0101).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (US Patent Pub. # 2003/0044174) in view of Sakamoto (US Patent # 6183142) as applied to claim 1 above, and further in view of Mukai (US Patent # 5489965).

As to claim 4, note the discussion of Endo and Sakamoto above, Endo and Sakamoto do not teach an information display unit which displays information within the field of view of the view finder optical system; and a control circuit which controls the driving of the information display unit, wherein the control circuit does not drive the information display unit when the light splitting unit is in the second state.

Mukai (Fig. 11) teaches an information display unit (302) which displays information within the field of view of a view finder (5); and a control circuit (Col. 4, line 13-22) which controls the driving of the information display unit, wherein the control circuit (Col. 4, line

13-22) does not drive the information display unit when the light splitting unit is in the second state (Col. 4, line 3-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided an information display unit (302) which displays information within the field of view of a view finder (5) as taught by Mukai to the apparatus of Endo and Sakamoto, because it would be convenient for the user looking through the view finder (Col. 1, line 14 - 37 of Mukai).

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (US Patent Pub. # 2003/0044174) in view of Sakamoto (US Patent # 6183142) as applied to claim 1 above, and further in view of Fuchimukai (US Patent Pub. # 2002/0075394).

As to claim 5, note the discussion of Endo and Sakamoto above, Endo and Sakamoto do not teach a light-blocking member which moves with respect to the optical path of the view finder optical system; and a control circuit which controls the driving of the light-blocking member, wherein the control circuit causes the light-blocking member to be inserted into the optical path of the view finder optical system when the light splitting unit is in the second state

Fuchimukai (Fig. 6) teaches the image taking apparatus according to claim 1, further comprising: a light-blocking member (92A) which moves with respect to the optical path of the view finder optical system (40); and a control circuit which controls the driving of the light-blocking member (92A), wherein the control circuit (Para 0065) causes the light-blocking member (92A) to be inserted into the optical path of the view finder optical

system when the light splitting unit is in the second state (Para 0063 - 0066 of Fuchimukai).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a light-blocking member which moves with respect to the optical path of the view finder optical system as taught by Fuchimukai to the apparatus of Endo and Sakamoto, because it prevents light entering the eyepiece from reaching the CCD (Para 0063 of Fuchimukai).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohkawara (US Patent # 6,683,652) cites an interchangeable lens video camera system having improved focusing.

Aria (US Patent # 5,600,371) cites an image pickup apparatus with lens unit detection and recording control.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Peterson whose telephone number is 571-270-1704. The examiner can normally be reached on Monday - Friday 6:30 - 4:00 EST.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKP
7 January 2008


JUSTIN MISCHEN
EXAMINER, 6AU 2622